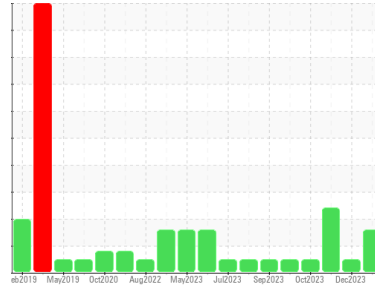




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
929080-205304

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0105205	GFL0090320	GFL0090275
Sample Date	Client Info	09 Jan 2024	20 Dec 2023	31 Oct 2023
Machine Age	hrs	12469	12298	11961
Oil Age	hrs	150	150	600
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	5	1	17
Chromium	ppm ASTM D5185m >20	<1	0	2
Nickel	ppm ASTM D5185m >4	0	0	<1
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	<1
Aluminum	ppm ASTM D5185m >20	1	<1	2
Lead	ppm ASTM D5185m >40	<1	0	3
Copper	ppm ASTM D5185m >330	<1	<1	3
Tin	ppm ASTM D5185m >15	0	0	<1
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	1	<1	<1
Barium	ppm ASTM D5185m 0	0	0	4
Molybdenum	ppm ASTM D5185m 60	70	56	74
Manganese	ppm ASTM D5185m 0	<1	0	<1
Magnesium	ppm ASTM D5185m 1010	961	929	913
Calcium	ppm ASTM D5185m 1070	1127	977	1050
Phosphorus	ppm ASTM D5185m 1150	1088	1051	968
Zinc	ppm ASTM D5185m 1270	1279	1225	1226
Sulfur	ppm ASTM D5185m 2060	3159	3094	3115

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 31	18	14
Sodium	ppm ASTM D5185m	89	22	▲ 124
Potassium	ppm ASTM D5185m >20	36	6	▲ 23
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

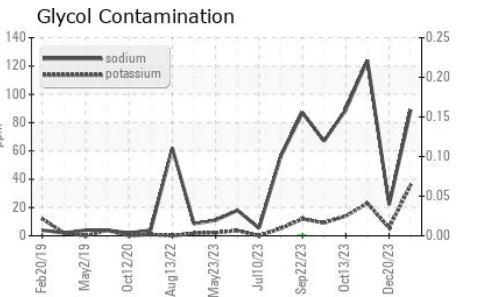
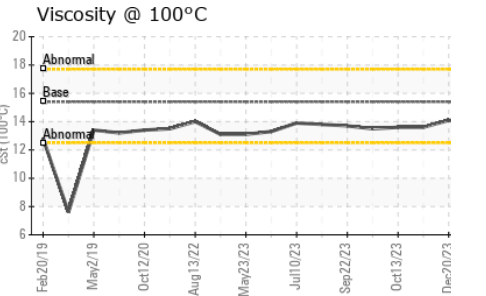
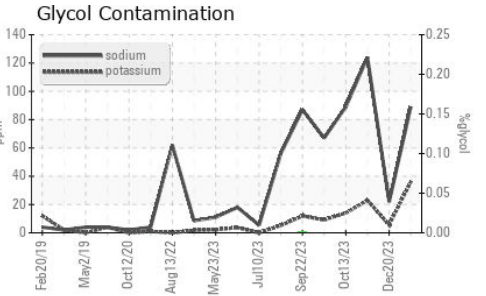
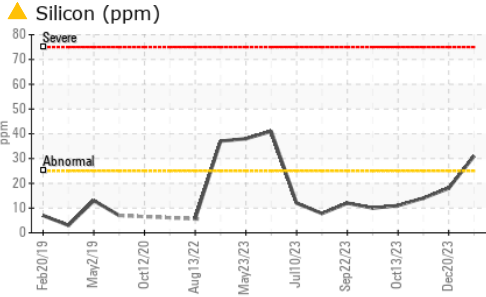
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.1	0.1	0.4
Nitration	Abs/cm *ASTM D7624 >20	6.8	4.9	10.0
Sulfation	Abs/.1mm *ASTM D7415 >30	19.4	18.0	22.4

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.2	13.5	18.9
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.6	9.0	7.3



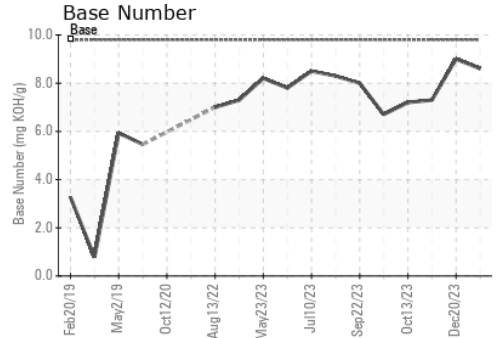
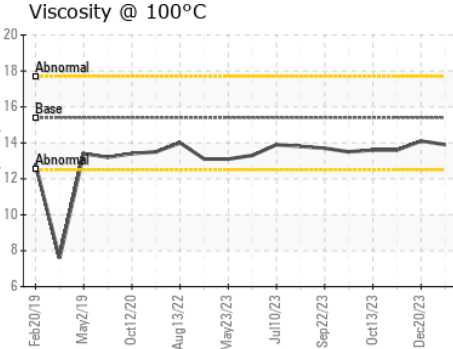
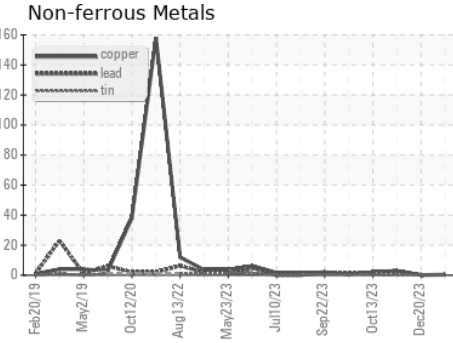
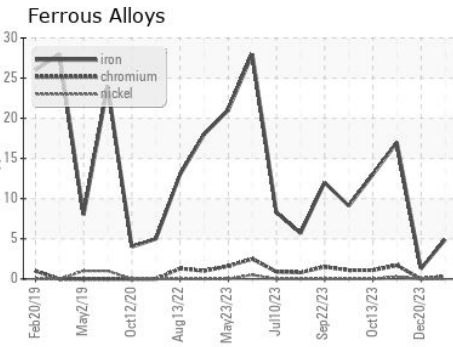
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105205 **Received** : 12 Jan 2024
Lab Number : 06059982 **Diagnosed** : 16 Jan 2024
Unique Number : 10831364 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 821 - Ozarks Hauling
 33924 Olath Drive
 Lebanon, MO
 US 65536
 Contact: Landen Johnson
 landen.johnson@gflenv.com
 T: (417)664-0010
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)